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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,603	09/17/2001	Craig N. Eatough	3195-6715US	8272

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EXAMINER

DOROSHENK, ALEXA A

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/954,603	Applicant(s) EATOUGH ET AL.	
	Examiner Alexa A. Doroshenk	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-78 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 70-78 is/are allowed.
- 6) ☒ Claim(s) 32-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>See Continuation Sheet</u> . |

Continuation of Attachment(s) 6). Other: copy of originally filed claims .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 32-69 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The subject matter not described in the application as filed is that directed toward "unwashed" and/or "non-elutriated" coal or coke fines. Since the subject matter was not described or conveyed in the application as filed, doubt is raised as to possession of the claimed invention at the time of filing.

Response to Amendment

3. The amendment filed January 18, 2005 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: on page 10 of the specification "The fines are not subjected to elutriation".

Applicant is required to cancel the new matter in the reply to this Office Action.

Allowable Subject Matter

4. Claims 70-78 are allowed.

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5. The following is a statement of reasons for the indication of allowable subject matter: The prior art neither teaches nor suggests a method of continuously producing high grade coke in the manner claimed, especially with regard to using a mixture of low grade non-coking coal fines and waste coke fines as feedstock to the pyrolyzer.

Response to Arguments

Double Patenting

Due to the abandonment of Applications 10/691,339 and 10/666,419, the double patenting rejections are withdrawn.

35 USC 112, First Paragraph

Applicants argue that the subject matter of "unwashed" or "non-elutriated" coal or coal fines of the 35 USC 112, First Paragraph rejection, for claims 32-69 was supported by the application as originally filed and points to originally filed claims 1, 10 and 19 to demonstrate such support.

The rejection is maintained as the examiner cannot find support in the originally filed claims as indicated by applicant. A copy of the originally filed claims has been included with this Office Action for applicants to review.

35 USC 103(a)

The 35 USC 103(a) rejections of claims have been withdrawn due to applicant's arguments, and as indicated in the interview summary of August 26, 2004, that the "fine coal" of Weber is not an equivalent material to the "coal fines" recited by applicant.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

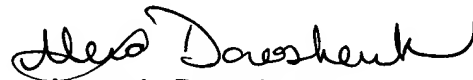
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa A. Doroshenk whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alexa A. Doroshenk
Primary Examiner
Art Unit 1764

What is claimed and desired to be secured by Letters Patent is:

1. A method of producing coke from at least one lower grade material on a low pollution or no pollution basis, comprising the acts of:
- introducing a mixture of low grade coal fines and another type of carbonaceous fines as an influent into a pyrolyzer;
 - pyrolyzing the mixture in the pyrolyzer;
 - discharging coke and pyrolytic by-products as effluents from the pyrolyzer;
 - separating the pyrolytic by-products into tar and combustible off gas;
 - using the separated tar as a binder in the mixture, without discharging the tar to the environment;
 - using the combustible off gas as a source of fuel in the pyrolyzer without discharging the off gas to the environment.
2. A method according to Claim 1 wherein the introducing act comprises obtaining a mixture comprising coal fines and coke fines.
3. A method according to Claim 1 further comprising the act of crushing low grade coal and/or another type of carbonaceous material, prior to the introducing act, to obtain the fines.
4. A method according to Claim 1 further comprising the act of forming the mixture into solid objects prior to the introducing act.

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5. A method according to Claim 4 wherein the discharging act comprises discharging the coke as solid objects.

6. A method according to Claim 1 wherein the using act comprises combining the separated tar, a synthetic binder and the mixture of fines prior to the introducing act.

7. A method according to Claim 1 wherein the separated tar is fed back to the mixture prior to the introducing act. A

8. A method according to Claim 1 wherein the separating act comprises cooling the by-products and condensing the tar to separate the tar from the off gas.

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9. A method of producing coke from at least one low grade material on a low pollution or no pollution basis, comprising the acts of:

introducing a mixture of low grade coal fines and another type of carbonaceous fines as an influent into a pyrolyzer;

pyrolyzing the mixture in the pyrolyzer;

discharging coke and pyrolytic by-products as effluents from the pyrolyzer;

separating the pyrolytic by-products into tar and combustible off gas;

using the separated tar as a binder in the mixture without discharging the tar to the environment;

using the combustible off gas as a source of fuel in the pyrolyzer without discharging the off gas to the environment.

10. A method according to Claim 9 wherein the introducing act comprises obtaining a mixture comprising coke fines and coal fines.

11. A method according to Claim 9 further comprising the act of crushing coke and/or another type of carbonaceous material, prior to the introducing act, to obtain the fines.

12. A method according to Claim 9 further comprising the act of forming the mixture into solid objects prior to the introducing act.

13. A method according to Claim 12 wherein the discharging act comprises discharging the coke from the pyrolyzer as solid objects.

14. A method according to Claim 9 wherein the using act comprises combining the separated tar, a synthetic binder and the mixture of fines prior to the introducing act.

15. A method according to Claim 9 wherein the separated tar is fed back to the mixture prior to the introducing act. A

16. A method according to Claim 9 wherein the separating act comprises cooling the by-products and condensing the tar to separate the tar from the off gas.

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17. A method of producing coke from low grade coal and waste coke fines on a low pollution or no pollution basis, comprising the acts of:

introducing a mixture of lower grade coal fines and waste coke fines as an influent into a pyrolyzer;

pyrolyzing the mixture in the pyrolyzer;

discharging segregated coke, on the one hand, and pyrolytic by-products comprising combustible off gas and tar on the other hand, as effluents from the pyrolyzer;

separating the pyrolytic by-products into segregated tar and combustible off-gas;

using the segregated tar as a binder in the mixture without discharging the tar to the environment;

using the segregated combustible off gas as a source of fuel in the pyrolyzer without discharging the off gas to the environment.

18. A method according to Claim 17 further comprising the act of crushing oversized waste coke and/or oversized low grade coal, to obtain the fines.

19. A method according to Claim 17 further comprising the act of forming the mixture into solid objects prior to the introducing act.

20. A method according to Claim 19 wherein the discharging act comprises discharging the coke from the pyrolyzer as solid objects.

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21. A method according to Claim 17 wherein the using act comprises combining the separated tar, a synthetic binder and the mixture of fines in a mixer.
22. A method according to Claim 17 wherein the separated tar is fed back to the mixture of fines.
23. A method according to Claim 17 wherein low grade coal comprises 20-40% by weight of the mixture.
24. A method according to Claim 17 wherein petroleum coke comprises 40-70% by weight of the mixture.
25. A method according to Claim 17 wherein coke breeze comprises 5-10% by weight of the mixture.
26. A method according to Claim 17 wherein the pyrolyzing act comprises heating the introduced mixture to a temperature within the range of 800-1100°C at a rate within the range of 1500-2000°C/hour to lower coke volatility below 2%.
27. A method according to Claim 17 wherein the separating act comprises cooling the by-products to about 300°C and condensing the tar to separate the tar from the off gas.

28. A method of producing coke on a low pollution or no pollution basis comprising the

acts of :

introducing at least one source of carbon comprising low grade coal fines as an influent into

a pyrolyzer;

pyrolyzing the fines in the pyrolyzer;

discharging coke, and pyrolytic by-product comprising combustible off gas, and tar as

effluents from the pyrolyzer;

condensing the tar;

using the tar as a binder for coal fines without discharging the tar to the environment;

using the combustible off gas as a source of fuel in the pyrolyzer without discharging the off
gas to the environment.

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29. A method of producing coke on a low pollution or no pollution basis comprising the acts of:

- introducing at least one source of carbon comprising waste coke fines and/or coal fines as an influent into a pyrolyzer;
- pyrolyzing the fines in the pyrolyzer;
- discharging coke, and pyrolytic by-products comprising combustible off gas, and tar as effluents from the pyrolyzer;
- condensing the tar to separate the tar and off gas;
- using the tar as a binder for the fines without discharging the tar to the environment;
- using the combustible off gas as a source of fuel in the pyrolyzer without discharging the off gas to the environment.

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30. A method according to Claim 29 wherein all condensed tar is utilized as binder and all combustible off gas is used to fuel the pyrolyzer.

31. A method according to Claim 29 wherein the condensed tar is the sole binder source and the combustible off-gas is the sole source of fuel for the pyrolyzer.

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